

Figure 1: 161P2F10B SSH sequence of 182 nucleotides (SEQ. ID. No. 742)

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1  GATCACACAT TAGGTTATNG ACTTCAATAT TTCAAATGG TTCAACTTCA GTCTTCTCTT
61  TAAAACTGGG TCCATGTGCC AAGAAAGATA GCCTCCATGC TCCTAAACTC ATTGTTATAA
121 CCATGGTTGC CTCCTCCACA ATTTGTATT GATTACTCC TAACAGCCAG CCACTGTTGA
181 TC
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Figure 2.

Figure 2A. The cDNA (SEQ ID. NO. : 744) and amino acid sequence (SEQ ID. NO. : 743) of 161P2F10B. The 3858 nucleotide sequence of 161P2F10B is shown. The codon for the start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

1		M E S T L T
1	ctactttattctgataaaacaggtctatgcagctaccaggaca	<u>ATGGAATCTACGTTGAC</u>
7	L A T E Q P V K K N T L K K Y K I A C I	
61	TTTAGCAACGGAACACCTGTTAAGAAGAACTCTTAAGAAATATAAAATAGCTTGCAT	
27	V L L A L L V I M S L G L G L G L G L R	
121	TGTTCTTCTTGCTTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGACTCAG	
47	K L E K Q G S C R K K C F D A S F R G L	
181	GAAACTGGAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTGATGCATCATTTAGAGGACT	
67	E N C R C D V A C K D R G D C C W D F E	
241	GGAGAAGTGCCTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA	
87	D T C V E S T R I W M C N K F R C G E T	
301	AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAATTCGTTGTGGAGAGAC	
107	R L E A S L C S C S D D C L Q K K D C C	
361	CAGATTAGAGGCCAGCCTTTGCTCTTGTTTCAGATGACTGTTTCAGAGAAGAAAGATTGCTG	
127	A D Y K S V C Q G E T S W L E E N C D T	
421	TGCTGACTATAAGAGTGTTTGCCAAGGAGAAACCTCATGGCTGGAAGAAAAGCTGTGACAC	
147	A Q Q S Q C P E G F D L P P V I L F S M	
481	AGCCCAGCAGTCTCAGTGCCAGAGGGTTTGACCTGCCACCAGTTATCTTGTGTTTCTAT	
167	D G F R A E Y L Y T W D T L M P N I N K	
541	GGATGGATTTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA	
187	L K T C G I H S K Y M R A M Y P T K T F	
601	<u>ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATGCTACCAAAACCTT</u>	
207	P N H Y T I V T G L Y P E S H G I I D N	
661	CCCAAATCATTACACCATTGTCACGGGCTTGATCCAGAGTCACATGGCATCATTGACAA	
227	N M Y D V N L N K N F S L S S K E Q N N	
721	TAATATGTATGATGTAAATCTCAACAAGAATTTTCACTTCTTCAAGGAACAAAATAA	
247	P A W W H G Q P M W L T A M Y Q G L K A	
781	TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAGC	
267	A T Y F W P G S E V A I N G S F P S I Y	
841	CGTACCTACTTTTGCCCGGATCAGAAGTGGCTATAAATGGCTCCTTTCCTTCCATATA	
287	M P Y N G S V P F E E R I S T L L K W L	
901	CATGCCTTACAACGGAAGTGTCCCATTTGAAGAGAGGATTCTACACTGTTAAATGGCT	

307 D L P K A E R P R F Y T M Y F E E P D S
 961 GGACCTGCCCCAAGCTGAAAGACCCAGGTTTTATACCATGTATTTTGAAGAACCTGATTC
 327 S G H A G G P V S A R V I K A L Q V V D
 1021 CTCTGGACATGCAGGTGGACCAGTCAGTGCCAGAGTAATTAAAGCCTTACAGGTAGTAGA
 347 H A F G M L M E G L K Q R N L H N C V N
 1081 TCATGCTTTTGGGATGTTGATGGAAGGCCTGAAGCAGCGGAATTTGCACAACCTGTGTCAA
 367 I I L L A D H G M D Q T Y C N K M E Y M
 1141 TATCATCCTTCTGGCTGACCATGGAATGGACCAGACTTATTGTAACAAGATGGAATACAT
 387 T D Y F P R I N F F Y M Y E G P A P R I
 1201 GACTGATTATTTTCCAGAATAAACTTCTTCTACATGTACGAAGGGCCTGCCCCCGCAT
 407 R A H N I P H D F F S F N S E E I V R N
 1261 CCGAGCTCATAATATACCTCATGACTTTTTTAGTTTTAATTCTGAGGAAATGTTAGAAA
 427 L S C R K P D Q H F K P Y L T P D L P K
 1321 CCTCAGTTGCCGAAAACCTGATCAGCATTTCAGCCCTATTTGACTCCTGATTGCCAAA
 447 R L H Y A K N V R I D K V H L F V D Q Q
 1381 GCGACTGCACTATGCCAAGACGTCAGAATCGACAAAGTTCATCTCTTTGTGGATCAACA
 467 W L A V R S K S N T N C G G G N H G Y N
 1441 GTGGCTGGCTGTTAGGAGTAAATCAAATACAAATTGTGGAGGAGGCAACCATGGTTATAA
 487 N E F R S M E A I F L A H G P S F K E K
 1501 CAATGAGTTTAGGAGCATGGAGGCTATCTTTCTGGCACATGGACCCAGTTTAAAGAGAA
 507 T E V E P F E N I E V Y N L M C D L L R
 1561 GACTGAAGTTGAACCATTTGAAAATATTGAAGTCTATAACCTAATGTGTGATCTTCTACG
 527 I Q P A P N N G T H G S L N H L L K V P
 1621 CATTCAACCAGCACCAAAACATGGAACCCATGGTAGTTTAAACCATCTTCTGAAGTGGCC
 547 F Y E P S H A E E V S K F S V C G F A N
 1681 TTTTATGAGCCATCCCATGCAGAGGAGGTGTCAAAGTTTCTGTTTGTGGCTTTGCTAA
 567 P L P T E S L D C F C P H L Q N S T Q L
 1741 TCCATTGCCCACAGAGTCTCTTGACTGTTTCTGCCCTCACCTACAAAATAGTACTCAGCT

 587 E Q V N Q M L N L T Q E E I T A T V K V
 1801 GGAACAAGTGAATCAGATGCTAAATCTCACCAAGAAGAAATAACAGCAACAGTGAAAGT
 607 N L P F G R P R V L Q K N V D H C L L Y
 1861 AAATTTGCCATTGAGGAGGCTAGGGTACTGCAGAAGAAGCTGGACCAGTGTCTCCTTTA
 627 H R E Y V S G F G K A M R M P M W S S Y
 1921 CCACAGGGAATATGTCTAGTGGATTGGAAAAGCTATGAGGATGCCCATGTGGAGTTTCATA
 647 T V P Q L G D T S P L P P T V P D C L R
 1981 CACAGTCCCCAGTTGGGAGACACATCGCCTCTGCCTCCCACTGTCCAGACTGTCTGCG
 667 A D V R V P P S E S Q K C S F Y L A D K
 2041 GGCTGATGTCAGGGTTCCTCCTTCTGAGAGCCAAAAATGTTCTTCTATTTAGCAGACAA

687 N I T H G F L Y P P A S N R T S D S Q Y
 2101 GAATATCACCCACGGCTTCTCTATCTCTGCCAGCAATAGAACATCAGATAGCCAATA
 707 D A L I T S N L V P M Y E E F R K M W D
 2161 TGATGCTTTAATTACTAGCAATTGGGTACCTATGTATGAAGAATTCAGAAAAATGTGGGA
 727 Y F H S V L L I K H A T E R N G V N V V
 2221 CTACTCCACAGTGTCTCTTTATAAAACATGCCACAGAAAGAAATGGAGTAAATGTGGT
 747 S G P I F D Y N Y D G H F D A P D E I T
 2281 TAGTGGACCAATATTTGATTATAATTATGATGGCCATTTTGTATGCTCCAGATGAAATTAC
 767 K H L A N T D V P I P T H Y F V V L T S
 2341 CAAACATTTAGCCAACACTGATGTTCCCATCCCAACACACTACTTTGTGGTGCTGACCAG
 787 C K N K S H T P E N C P G W L D V L P F
 2401 TTGTAAAAACAAGAGCCACACACCGGAAAACCTGCCCTGGGTGGCTGGATGTCTACCCCTT
 807 I I P H R P T N V E S C P E G K P E A L
 2461 TATCATCCCTCACCACCTACCAACGTGGAGAGCTGTCTGAAGGTAAACCAGAAGCTCT
 827 W V E E R F T A H I A R V R D V E L L T
 2521 TTGGGTGAAGAAAGATTTACAGCTCACATTGCCCGGGTCCGTGATGTAGAACTTCTCAC
 847 G L D F Y Q D K V Q P V S E I L Q L K T
 2581 TGGGCTTGACTTCTATCAGGATAAAGTGCAGCCTGTCTCTGAATTTTGCAACTAAAGAC
 867 Y L P T F E T T I *
 2641 ATATTTACCAACATTTGAAACCACTATTTAACTtaataatgtctacttaatatataattt
 2701 actgtataaagtaattttggcaaaatataagtgattttttctggagaattgtaaaaataa
 2761 gttttctatttttcttaaaaaaaaaccggaattccgggcttgggaggctgaggcagga
 2821 gactcgcttgaacccgggaggcagaggttgagtgagccaagattgcgccattgcactcc
 2881 agagcctgggtgacagagcaagactacatctcaaaaaataaataaaaaataaaagtaa
 2941 caataaaaaataaaaagaacagcagagagaatgagcaaggagaatgtcacaactattgc
 3001 aaaatactgttacactgggttggtctctccaagaagatactggaatctcttcagccatttg
 3061 cttttcagaagtagaaaccagcaaacacctctaagcggagaacatacattctttatta
 3121 agtagctctggggaaggaaagaataaaaagttgatagctccctgattgggaaaaaatgcac

 3181 aattaataaagaatgaagatgaaagaaagcatgcttatgttgtaacacaaaaaaattca
 3241 caaacgttggtggaaggaaaaacagtatagaaaacattactttaactaaaagctggaaaaa
 3301 ttttcagttgggatgcgactgacaaaaagaacgggatttccaggcataaagttggcgta
 3361 gctacagagggccacctgtggctcagtggaagacccttcaagattcaaagttccatttga
 3421 cagagcaaaggcacttcgcaaggagaagggtttaattatgggtcctaaaagccaagtgg
 3481 aaagcgagcaatttgagcataactgcttctcctagacagggtgagtgggcaaaatag
 3541 acagtacacacagtgactattagccactgccagaacaggctgaacagccctgggagaca
 3601 aggggaaggcaggtgggtgggagttgttcatggagagaaggagaggttttagaaccagcaca
 3661 tccactggagatgctgggccaccagaccctcccagtcataaagctgggtgcctcattt
 3721 gatctcagcctcatcatgaccctggagagaccctgataccatctgccagtccccgacagc

3781 ttaggcactccttgccatcaacctgaccccccgagtgggtctccaggctccctgccccac
 3841 ccattcaggccggaattc

Figure 2B: The cDNA (SEQ ID. NO. : 746) and amino acid sequence (SEQ ID. NO. : 745) of 161P2F10B variant 1. The 3858 nucleotide sequence of 161P2F10B variant 1 is shown. The start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

1	M E S T L T
1 ctacttttattctgataaaacaggtctatgcagctaccaggacaATGGAATCTACGTTGAC	
7 L A T E Q P V K K N T L K K Y K I A C I	
61 TTTAGCAACGGAACAACCTGTTAAGAAGAACTCTTAAGAAATATAAAATAGCTTGCAT	
27 V L L A L L V I M S L G L G L G L G L R	
121 TGTTCCTTCTGCTTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGGACTCAG	
47 K L E K Q G S C R K K C F D A S F R G L	
181 GAACTGGAAAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTGATGCATCATTAGAGGACT	
67 E N C R C D V A C K D R G D C C W D F E	
241 GGAGAACTGCCGCTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA	
87 D T C V E S T R I W M C N K F R C G E T	
301 AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAAATTCGTTGTGGAGAGAC	
107 R L E A S L C S C S D D C L Q R K D C C	
361 CAGATTAGAGGCCAGCCTTTGCTCTTGTTTCAGATGACTGTTTGAGAGGAAAGATTGCTG	
127 A D Y K S V C Q G E T S W L E E N C D T	
421 TGCTGACTATAAGAGTGTTTGCCAAGGAGAAACCTCATGGCTGGAAGAAAACCTGTGACAC	
147 A Q Q S Q C P E G F D L P P V I L F S M	
481 AGCCCAGCAGTCTCAGTGCCCAAGGGTTTGACCTGCCACCAGTTATCTTGTCTTCTAT	
167 D G F R A E Y L Y T W D T L M P N I N K	
541 GGATGGATTTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA	
<hr/>	
187 L K T C G I H S K Y M R A M Y P T K T F	
601 ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATCTACAAAACCTT	
207 P N H Y T I V T G L Y P E S H G I I D N	
661 CCCAAATCATTACACCATGTGCAGGGCTTGTATCCAGAGTCACATGGCATCATTGACAA	
227 N M Y D V N L N K N F S L S S K E Q N N	
721 TAATATGTATGATGTAATCTCAACAAGAATTTTCACTTCTTCAAAGGAACAAAATAA	
247 P A W W H G Q P M W L T A M Y Q G L K A	
781 TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAGC	
267 A T Y F W P G S E V A I N G S F P S I Y	
841 CGCTACCTACTTTTGCCCGGATCAGAAGTGGCTATAAATGGCTCCTTTCCTCCATATA	

287 M P Y N G S V P F E E R I S T L L K W L
 901 CATGCCTTACAACGGAAGTGTCCTCATTTGAAGAGAGGATTCTTACACTGTTAAATGGCT
 307 D L P K A E R P R F Y T M Y F E E P D S
 961 GGACCTGCCCCAAGCTGAAGAGCCAGGTTTTATACCATGTATTTGAAGAACCTGATTCT
 327 S G H A G G P V S A R V I K A L Q V V D
 1021 CTCTGGACATGCAGGTGGACCACTCAGTGCCAGAGTAATTAAGCCTTACAGGTAGTAGA
 347 H A F G M L M E G L K Q R N L H N C V N
 1081 TCATGCTTTTGGGATGTTGATGGAAGGCCTGAAGCAGCGGAATTTGCACAACCTGTGTCAA
 367 I I L L A D H G M D Q T Y C N K M E Y M
 1141 TATCATCCTTCTGGCTGACCATGGAATGGACCAGACTTATTGTAACAAGATGGAATACAT
 387 T D Y F P R I N F F Y M Y E G P A P R I
 1201 GACTGATTATTTTCCAGAATAAACTTCTTCTACATGTACGAAGGCCTGCCCCCGCAT
 407 R A H N I P H D F F S F N S E E I V R N
 1261 CCGAGCTCATAATATACCTCATGACTTTTTTAGTTTTAATCTCTGAGGAAATTTGTAGAAA
 427 L S C R K P D Q H F K P Y L T P D L P K
 1321 CCTCAGTTGCCGAAAACCTGATCAGCATTTCAAGCCCTATTTGACTCCTGATTGCCCCAA
 447 R L H Y A K N V R I D K V H L F V D Q Q
 1381 GCGACTGCACTATGCCAAGAACGTCAGAATCGACAAAGTTCATCTCTTTGTGGATCAACA
 467 W L A V R S K S N T N C G G G N H G Y N
 1441 GTGGCTGGCTGTTAGGAGTAAATCAAATCAAATTGTGGAGGAGGCAACCATGGTTATAA
 487 N E F R S M E A I F L A H G P S F K E K
 1501 CAATGAGTTTAGGAGCATGGAGGCTATCTTTCTGGCACATGGACCCAGTTTTAAAGAGAA
 507 T E V E P F E N I E V Y N L M C D L L R
 1561 GACTGAAGTTGAACCATTTGAAAATATTGAAGTCTATAACCTAATGTGTGATCTTCTACG
 527 I Q P A P N N G T H G S L N H L L K V P
 1621 CATTCAACCAGCACCAACAATGGAACCATGGTAGTTTTAAACCATCTTCTGAAGGTGCC
 547 F Y E P S H A E E V S K F S V C G F A N
 1681 TTTTATGAGCCATCCCATGCAGAGGAGGTGTCAAAGTTTTCTGTTTGTGGCTTTGCTAA

 567 P L P T E S L D C F C P H L Q N S T Q L
 1741 TCCATTGCCCACAGAGTCTCTTGACTGTTTCTGCCCTCACCTACAAAATAGTACTCAGCT
 587 E Q V N Q M L N L T Q E E I T A T V K V
 1801 GGAACAAGTGAATCAGATGCTAAATCTCACCAAGAAGAAATAACAGCAACAGTGAAAGT
 607 N L P F G R P R V L Q K N V D H C L L Y
 1861 AAATTTGCCATTTGGGAGGCTAGGGTACTGCAGAAGAACGTGGACCACTGTCTCCTTTA
 627 H R E Y V S G F G K A M R M P M W S S Y
 1921 CCACAGGGAATATGTCACTGGATTGGAAAAGCTATGAGGATGCCCATGTGGAGTTTATA
 647 T V P Q L G D T S P L P P T V P D C L R
 1981 CACAGTCCCCAGTTGGGAGACACATCGCCTCTGCCTCCCACTGTCCAGACTGTCTGCG

667 A D V R V P P S E S Q K C S F Y L A D K
 2041 GGCTGATGTCAGGGTTCCTCTCTGAGAGCCAAAAATGTCCTTCTATTTAGCAGACAA
 687 N I T H G F L Y P P A S N R T S D S Q Y
 2101 GAATATCACCCACGGCTTCCTCTATCCTGCCAGCAATAGAACATCAGATAGCCAATA
 707 D A L I T S N L V P M Y E E F R K M W D
 2161 TGATGCTTTAATTACTAGCAATTTGGTACCTATGTATGAAGAATTCAGAAAAATGTGGGA
 727 Y F H S V L L I K H A T E R N G V N V V
 2221 CTACTTCCACAGTGTTCCTTTATATAAAACATGCCACAGAAAGAAATGGAGTAAATGTGGT
 747 S G P I F D Y N Y D G H F D A P D E I T
 2281 TAGTGGACCAATATTGTATTATAATTATGATGGCCATTTTGTATGCTCCAGATGAAATTAC
 767 K H L A N T D V P I P T H Y F V V L T S
 2341 CAAACATTTAGCCAACACTGATGTTCCCATCCCAACACTACTTTGTGGTGCTGACCAG
 787 C K N K S H T P E N C P G W L D V L P F
 2401 TTGTAAAAACAAGAGCCACACACCGGAAAACTGCCCTGGGTGGCTGGATGTCCTACCCCTT
 807 I I P H R P T N V E S C P E G K P E A L
 2461 TATCATCCCTCACCACCTACCAACGTGGAGAGCTGTCTGAAGGTAAACCAGAAGCTCT
 827 W V E E R F T A H I A R V R D V E L L T
 2521 TTGGGTGAAGAAAGATTTACAGCTCACATTGCCCGGGTCCGTGATGTAGAACTTCTCAC
 847 G L D F Y Q D K V Q P V S E I L Q L K T
 2581 TGGGCTTGACTTCTATCAGGATAAAGTGCAGCCTGTCTCTGAAATTTGCAACTAAAGAC
 867 Y L P T F E T T I *
 2641 ATATTTACCAACATTTGAAACCACTATTTAACTtaataatgtctacttaatatataattt
 2701 actgtataaagtaatttttggcaaaatataagtgattttttctggagaattgtaaaaataa
 2761 gttttctatttttcttaaaaaaaaaccggaattccgggcttgggaggctgaggcagga
 2821 gactcgcttgaacccgggaggcagaggttgacgtgagccaagattgcgccattgcactcc
 2881 agagcctgggtgacagagcaagactacatctcaaaaaataaataaaaaataaaagtaa
 2941 caataaaaaataaaaagaacagcagagagaatgagcaaggagaaatgtcacaactattgc
 3001 aaaatactgtttactctgggttggtctctccaagaagatactggaatctcttcagccattg
 3061 cttttcagaagtagaaaccagcaaaccacctctaagcggagaacatacattctttatta
 3121 agtagctctggggaaggaaagaataaaagttgatagctccctgattgggaaaaaatgcac
 3181 aattaataaagaatgaagatgaagaaagcatgcttatgttgtaacacaaaaaaattca
 3241 caaacgttggtggaaggaaaacagtatagaaaacattactttaactaaaagctggaaaaa
 3301 ttttcagttgggtagcagactgacaaaaagaacgggatttccaggcataaaagttggcggtga
 3361 gctacagagggccacctgtggctcagtggaagacccttaagattcaaagttccatttga
 3421 cagagcaaaggcacttcgcaaggagaagggtttaaattatgggtccaaaagccaagtggg
 3481 aaagcgagcaatttgcagcataactgcttctcctagacagggtgagtgggcaaaaatagc
 3541 acagtacacacagtgactattagccactgccgaaaacaggctgaacagccctgggagaca
 3601 agggaaggcaggtggtgggagttgttcattggagagaaggagagttttagaaccagcaca

3661 tccactggagatgctgggcccaccagaccctcccagtcataaaagtctggtgcctcattt
3721 gatctcagcctcatcatgaccctggagagaccctgataccatctgccagtccccgacagc
3781 ttaggcactccttgccatcaacctgaccccccgagtggttctccaggctccctgccccac
3841 ccattcaggccggaattc

Figure 3A. Amino acid sequence of 161P2F10B (SEQ ID. NO. : 747). The 161P2F10B protein has 875 amino acids.

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1  MESTLTATE QPVKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIMCNK FRCGETRLEA SLSCSDDCL
121 QKKDCCADYK SVCQGETSWL EENCDAQQS QCPEGFDLPP VILFSDMGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSL
241 SKEQNNPAWV HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEEERIS
301 TLLKWLDLPK AERPRFYTMY FEEDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQRN
361 LHNVCNIIIL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIAHN IPHDFFSFNS
421 EEIVRNLSR KPDQHFQPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNTNCGG
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTHGSLN
541 HLLKVPFYEP SHAEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQEEI
601 TATVKVNLFF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTPVQ LGDTSPLPPT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSQSQYDALI TSNLVPMYEE
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNDGHFD APDEITKHLA NTDVPIPTHY
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCEP GKPEALWVEE RFTAHIAVR
841 DVELLTGLDF YQDKVQPVSE ILQLKTYLPT FETTI

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Figure 3B. Amino acid sequence of 161P2F10B variant 1 (SEQ ID. NO. : 748). The 161P2F10B variant 1 protein has 875 amino acids.

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1  MESTLTATE QPVKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIMCNK FRCGETRLEA SLSCSDDCL
121 QRKDCCADYK SVCQGETSWL EENCDAQQS QCPEGFDLPP VILFSDMGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSL
241 SKEQNNPAWV HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEEERIS
301 TLLKWLDLPK AERPRFYTMY FEEDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQRN
361 LHNVCNIIIL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIAHN IPHDFFSFNS
421 EEIVRNLSR KPDQHFQPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNTNCGG
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTHGSLN
541 HLLKVPFYEP SHAEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQEEI
601 TATVKVNLFF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTPVQ LGDTSPLPPT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSQSQYDALI TSNLVPMYEE
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNDGHFD APDEITKHLA NTDVPIPTHY
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCEP GKPEALWVEE RFTAHIAVR
841 DVELLTGLDF YQDKVQPVSE ILQLKTYLPT FETTI

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Figure 4

Figure 4A. Amino acid alignment of 161P2F10B (SEQ. ID. No. 747) with ENPP3 (SEQ. ID. No. 765).

161P2F10B	mestltlateqp	vkkntlkkykia	ivllallvims	lg19	40	
ENPP3	mestltlateqp	vkkntlkkykia	ivllallvims	lg19	40	
161P2F10B	lg1lrklekqg	scrkkcfda	sfgrglencr	cdvackdr	gd 80	
ENPP3	lg1lrklekqg	scrkkcfda	sfgrglencr	cdvackdr	gd 80	
161P2F10B	ccwdfedtcves	trwmcnkfr	cgetrleas	lcsddcl	120	
ENPP3	ccwdfedtcves	trwmcnkfr	cgetrleas	lcsddcl	120	
161P2F10B	qkkdcca	dyksvcqg	etswleenc	dttaqqsc	pegfdlpp 160	
ENPP3	qkkdcca	dyksvcqg	etswleenc	dttaqqsc	pegfdlpp 160	
161P2F10B	vilfsm	dgrae	yltwdt	lmpninkl	ktcgihskymram 200	
ENPP3	vilfsm	dgrae	yltwdt	lmpninkl	ktcgihskymram 200	
161P2F10B	yptktf	pnhhyti	vtygl	ypeshg	iidnnmydvnlknfsls 240	
ENPP3	yptktf	pnhhyti	vtygl	ypeshg	iidnnmydvnlknfsls 240	
161P2F10B	skeqnn	pawwhg	qppm	wltamy	qgglkaatyfwpgsevaing 280	
ENPP3	skeqnn	pawwhg	qppm	wltamy	qgglkaatyfwpgsevaing 280	
161P2F10B	sfpsiy	mpyngs	vppfeeri	stllkwld	lplkaerpriytm 320	
ENPP3	sfpsiy	mpyngs	vppfeeri	stllkwld	lplkaerpriytm 320	
161P2F10B	feepds	sghag	gppvsar	vika	lqvvdhaafgmlmeglkqrn 360	
ENPP3	feepds	sghag	gppvsar	vika	lqvvdhaafgmlmeglkqrn 360	
161P2F10B	lhncvni	illadh	gmdq	tycnkme	ymtdyfprinfyyme 400	
ENPP3	lhncvni	illadh	gmdq	tycnkme	ymtdyfprinfyyme 400	
161P2F10B	gpapri	rahn	iphd	ffsf	nseeivrnls	crkpdqhkpyl 440
ENPP3	gpapri	rahn	iphd	ffsf	nseeivrnls	crkpdqhkpyl 440
161P2F10B	tpdlp	kr	lhya	knvrid	kvhl	fvddqqqlavrsksntncgg 480
ENPP3	tpdlp	kr	lhya	knvrid	kvhl	fvddqqqlavrsksntncgg 480

161P2F10B	gnhgynnefrsm	eaiflahgpps	fkektevepfenievynl	520
ENPP3	gnhgynnefrsm	eaiflahgpps	fkektevepfenievynl	520
161P2F10B	mcddlriqpapn	ngthgslnhll	lkvpfyepshaeevskfs	560
ENPP3	mcddlriqpapn	ngthgslnhll	lkvpfyepshaeevskfs	560
161P2F10B	vcgfanplptes	ldcfcpnlqnst	qlqevnqmlnltqeei	600
ENPP3	vcgfanplptes	ldcfcpnlqnst	qlqevnqmlnltqeei	600
161P2F10B	tatvkvnlpfgr	prvlqknvdhcll	lyhreyvsfgkamrm	640
ENPP3	tatvkvnlpfgr	prvlqknvdhcll	lyhreyvsfgkamrm	640
161P2F10B	pmwssytpvql	gdtspplpbtvp	dclradvrvppsesqkcs	680
ENPP3	pmwssytpvql	gdtspplpbtvp	dclradvrvppsesqkcs	680
161P2F10B	fyladknithgf	lyppasnrtssd	sqydaletsnlvpmyee	720
ENPP3	fyladknithgf	lyppasnrtssd	sqydaletsnlvpmyee	720
161P2F10B	frkmwdyfhsvl	likhaterngvn	vsppifdynydgghfd	760
ENPP3	frkmwdyfhsvl	likhaterngvn	vsppifdynydgghfd	760
161P2F10B	apdeitkhlant	dvpipthylvlt	scnkshstpencpgw	800
ENPP3	apdeitkhlant	dvpipthylvlt	scnkshstpencpgw	800
161P2F10B	ldvlpfiiphrp	tnvescpegkpe	alwveerrftahiarvr	840
ENPP3	ldvlpfiiphrp	tnvescpegkpe	alwveerrftahiarvr	840
161P2F10B	dvelltgldfyq	dkvqpvsellql	ktylptfetti	875
ENPP3	dvelltgldfyq	dkvqpvsellql	ktylptfetti	875

Figure 4b. Amino acid alignment of 161P2F10B (SEQ. ID. No. 747) with 161P2F10B variant 1 (SEQ. ID. No. 748).

161P2F10B	mestl	lateqpvkntllkkykiacivllallvims	lg	40
161P2F10B variant 1	mestl	lateqpvkntllkkykiacivllallvims	lg	40
161P2F10B	lg	lg	lg	80
161P2F10B variant 1	lg	lg	lg	80

161P2F10B	c	c	w	d	f	e	d	t	c	v	e	s	t	r	i	w	m	c	n	k	f	r	c	g	e	t	r	l	e	a	s	l	c	s	c	s	d	d	c	l	120	
161P2F10B	variant 1	c	c	w	d	f	e	d	t	c	v	e	s	t	r	i	w	m	c	n	k	f	r	c	g	e	t	r	l	e	a	s	l	c	s	c	s	d	d	c	l	120
161P2F10B	variant 1	q	k	d	c	c	a	d	y	k	s	v	c	g	e	t	s	w	l	e	e	n	c	d	t	a	q	s	q	c	p	e	g	f	d	l	p	p	160			
161P2F10B	variant 1	q	k	d	c	c	a	d	y	k	s	v	c	g	e	t	s	w	l	e	e	n	c	d	t	a	q	s	q	c	p	e	g	f	d	l	p	p	160			
161P2F10B	variant 1	v	i	l	f	s	m	d	g	f	r	a	e	y	l	y	t	w	d	t	l	m	p	n	i	n	k	l	k	t	c	g	i	h	s	k	y	m	r	a	m	200
161P2F10B	variant 1	v	i	l	f	s	m	d	g	f	r	a	e	y	l	y	t	w	d	t	l	m	p	n	i	n	k	l	k	t	c	g	i	h	s	k	y	m	r	a	m	200
161P2F10B	variant 1	y	p	t	k	t	f	p	n	h	y	t	i	v	t	g	l	y	p	e	s	h	g	i	i	d	n	n	y	d	v	n	l	n	k	n	f	s	l	s	240	
161P2F10B	variant 1	y	p	t	k	t	f	p	n	h	y	t	i	v	t	g	l	y	p	e	s	h	g	i	i	d	n	n	y	d	v	n	l	n	k	n	f	s	l	s	240	
161P2F10B	variant 1	s	k	e	q	n	n	p	a	w	h	g	q	p	m	w	l	t	a	m	y	q	g	l	k	a	a	t	y	f	w	p	g	s	e	v	a	i	n	g	280	
161P2F10B	variant 1	s	k	e	q	n	n	p	a	w	h	g	q	p	m	w	l	t	a	m	y	q	g	l	k	a	a	t	y	f	w	p	g	s	e	v	a	i	n	g	280	
161P2F10B	variant 1	s	f	p	s	i	y	m	p	y	n	g	s	v	p	f	e	e	r	i	s	t	l	l	k	w	l	d	l	p	k	a	e	r	p	r	f	y	t	m	y	320
161P2F10B	variant 1	s	f	p	s	i	y	m	p	y	n	g	s	v	p	f	e	e	r	i	s	t	l	l	k	w	l	d	l	p	k	a	e	r	p	r	f	y	t	m	y	320
161P2F10B	variant 1	f	e	e	p	d	s	s	g	h	a	g	p	v	s	a	r	v	i	k	a	l	q	v	v	d	h	a	f	g	m	l	m	e	g	l	k	q	r	n	360	
161P2F10B	variant 1	f	e	e	p	d	s	s	g	h	a	g	p	v	s	a	r	v	i	k	a	l	q	v	v	d	h	a	f	g	m	l	m	e	g	l	k	q	r	n	360	
161P2F10B	variant 1	l	h	n	c	v	n	i	l	l	a	d	h	g	m	d	q	t	y	c	n	k	m	e	y	m	t	d	y	f	p	r	i	n	f	f	y	m	e	400		
161P2F10B	variant 1	l	h	n	r	v	n	i	l	l	a	d	h	g	m	d	q	t	y	c	n	k	m	e	y	m	t	d	y	f	p	r	i	n	f	f	y	m	e	400		
161P2F10B	variant 1	g	p	a	p	r	i	r	a	h	n	i	p	h	d	f	f	s	f	n	s	e	e	i	v	r	n	l	s	c	r	k	p	d	q	h	k	p	y	l	440	
161P2F10B	variant 1	g	p	a	p	r	i	r	a	h	n	i	p	h	d	f	f	s	f	n	s	e	e	i	v	r	n	l	s	c	r	k	p	d	q	h	k	p	y	l	440	
161P2F10B	variant 1	t	p	d	l	p	k	r	l	h	y	a	k	n	v	r	i	d	k	v	h	l	f	v	d	q	q	w	l	a	v	r	s	k	s	n	t	n	c	g	480	
161P2F10B	variant 1	t	p	d	l	p	k	r	l	h	y	a	k	n	v	r	i	d	k	v	h	l	f	v	d	q	q	w	l	a	v	r	s	k	s	n	t	n	c	g	480	
161P2F10B	variant 1	g	n	h	g	y	n	n	e	f	r	s	m	e	a	i	f	l	a	h	g	p	s	f	k	e	k	t	e	v	e	p	f	e	n	i	e	v	y	n	l	520
161P2F10B	variant 1	g	n	h	g	y	n	n	e	f	r	s	m	e	a	i	f	l	a	h	g	p	s	f	k	e	k	t	e	v	e	p	f	e	n	i	e	v	y	n	l	520
161P2F10B	variant 1	m	c	d	l	l	r	i	q	p	a	p	n	n	g	t	h	g	s	l	n	h	l	k	v	p	f	y	e	p	s	h	a	e	e	v	s	k	f	s	560	
161P2F10B	variant 1	m	c	d	l	l	r	i	q	p	a	p	n	n	g	t	h	g	s	l	n	h	l	k	v	p	f	y	e	p	s	h	a	e	e	v	s	k	f	s	560	
161P2F10B	variant 1	v	c	g	f	a	n	p	l	p	t	e	s	l	d	c	f	c	p	h	l	q	n	s	t	g	l	e	q	v	n	q	m	l	n	l	t	q	e	e	i	600
161P2F10B	variant 1	v	c	g	f	a	n	p	l	p	t	e	s	l	d	c	f	c	p	h	l	q	n	s	t	g	l	e	q	v	n	q	m	l	n	l	t	q	e	e	i	600

161P2F10B	tatvkvnlp	fgrprvlqknvdhcllyhreyvsgfgkamrm	640
161P2F10B variant 1	tatvkvnlp	fgrprvlqknvdhcllyhreyvsgfgkamrm	640
161P2F10B	pmwssytvp	qldtsplpvtvpdclradvrvppsesqkcs	680
161P2F10B variant 1	pmwssytvp	qldtsplpvtvpdclradvrvppsesqkcs	680
161P2F10B	fyladkni	thgflyppasnrttsdsqydalitnslvpmjee	720
161P2F10B variant 1	fyladkni	thgflyppasnrttsdsqydalitnslvpmjee	720
161P2F10B	frkmwdyfh	svllikhaterngvnvsgpifdynydgghfd	760
161P2F10B variant 1	frkmwdyfh	svllikhaterngvnvsgpifdynydgghfd	760
161P2F10B	apdeitkhl	antdvpiptthyfvvltscnkkshtpencpgw	800
161P2F10B variant 1	apdeitkhl	antdvpiptthyfvvltscnkkshtpencpgw	800
161P2F10B	ldvlpfi	phrptnvescpegkpealwveerftahiarvr	840
161P2F10B variant 1	ldvlpfi	phrptnvescpegkpealwveerftahiarvr	840
161P2F10B	dvelitgld	fyqdkvqpvsailqlktylptfetti	875
161P2F10B variant 1	dvelitgld	fyqdkvqpvsailqlktylptfetti	875

4C) Alignment of 161P2F10B (SEQ. ID. No. 749) and SNP variant 2 (SEQ. ID. No. 750) carrying a T to P mutation at position 874.

```

Query: 492 MEAIFLAHGSPFKEKTEVEPPENIEVYNLMCDLLRIQPAPNNGTHGSLNHLKVPFYEPS 551
      MEAIFLAHGSPFKEKTEVEPPENIEVYNLMCDLLRIQPAPNNGTHGSLNHLKVPFYEPS
Sbjct: 1   MEAIFLAHGSPFKEKTEVEPPENIEVYNLMCDLLRIQPAPNNGTHGSLNHLKVPFYEPS 60

Query: 552 HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLFPFG 611
      HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLFPFG
Sbjct: 61  HAEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLFPFG 120

Query: 612 RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPQLGDTSPLPPTVPDCLRADVRV
671
      RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPQLGDTSPLPPTVPDCLRADVRV
Sbjct: 121 RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTPQLGDTSPLPPTVPDCLRADVRV 180

Query: 672 PPSESQKCSFYLDKNITHGFLYPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV 731
      PPSESQKCSFYLDKNITHGFLYPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV
Sbjct: 181 PPSESQKCSFYLDKNITHGFLYPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV 240

Query: 732 LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPPIPTHYFVVLTSCKNKS 791
      LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPPIPTHYFVVLTSCKNKS
Sbjct: 241 LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPPIPTHYFVVLTSCKNKS 300

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      HTPENCPGWLDVLPFIIIPHRPTNVESCEPGKPEALWVEERFTHAIARVRDVELLTGLDFY
Sbjct: 301 HTPENCPGWLDVLPFIIIPHRPTNVESCEPGKPEALWVEERFTHAIARVRDVELLTGLDFY 360

Query: 852 QDKVQPVSEILQLKTYLPTFETI 875
      QDKVQPVSEILQLKTYLPTFET I
Sbjct: 361 QDKVQPVSEILQLKTYLPTFETPI 384

```

Figure 5: 161P2F10B Hydrophilicity profile
(Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)

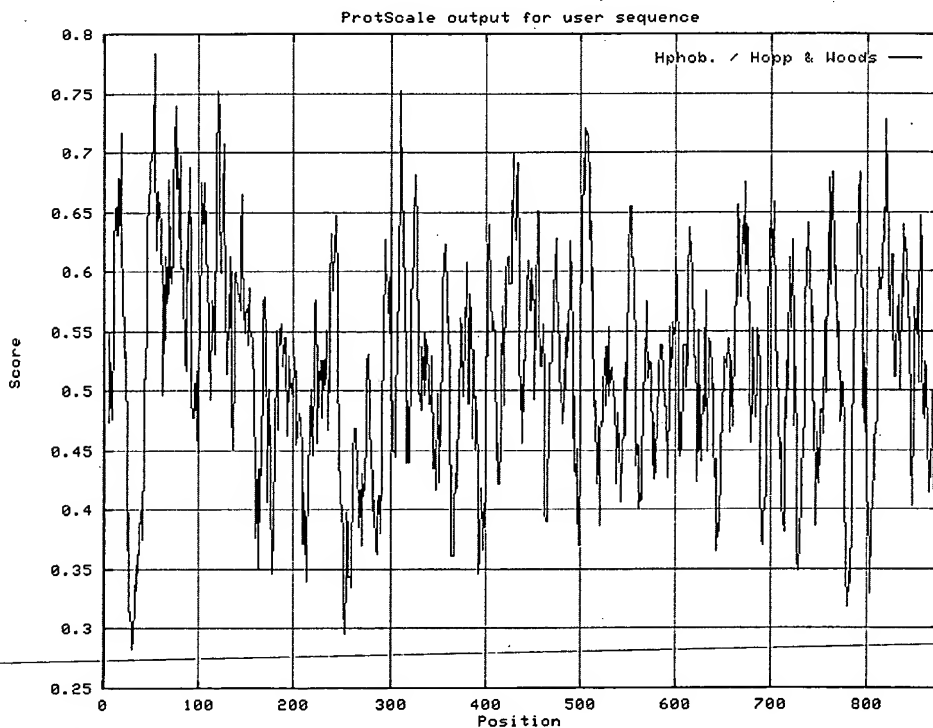


Figure 6: 161P2F10B Hydropathicity Profile
(Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

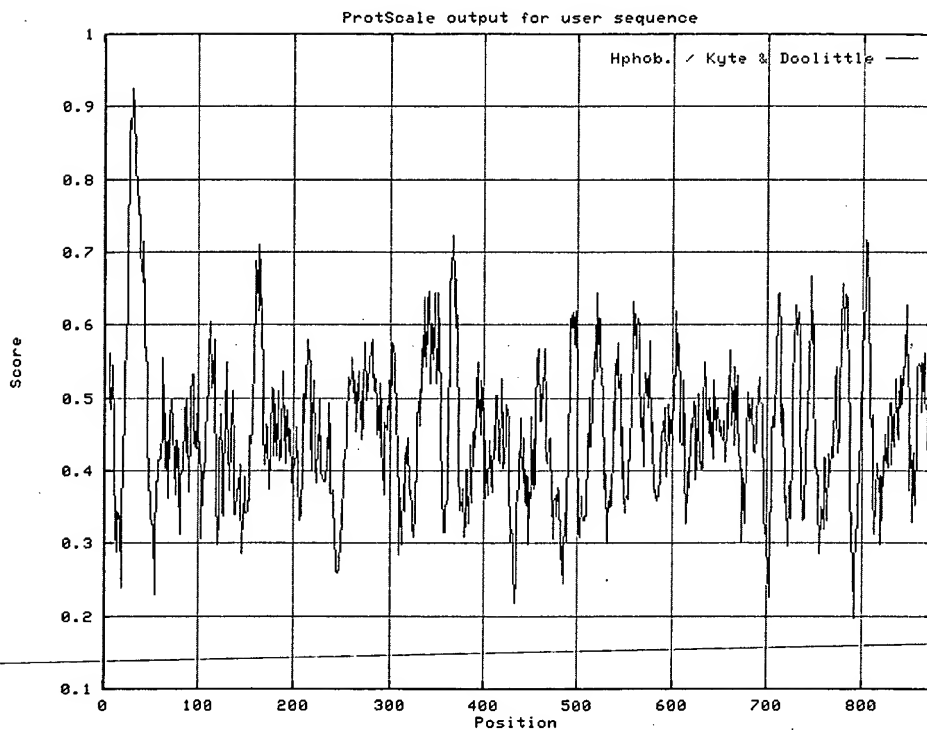


Figure 7: 161P2F10B % Accessible Residues Profile
(Janin J., 1979. Nature 277:491-492)

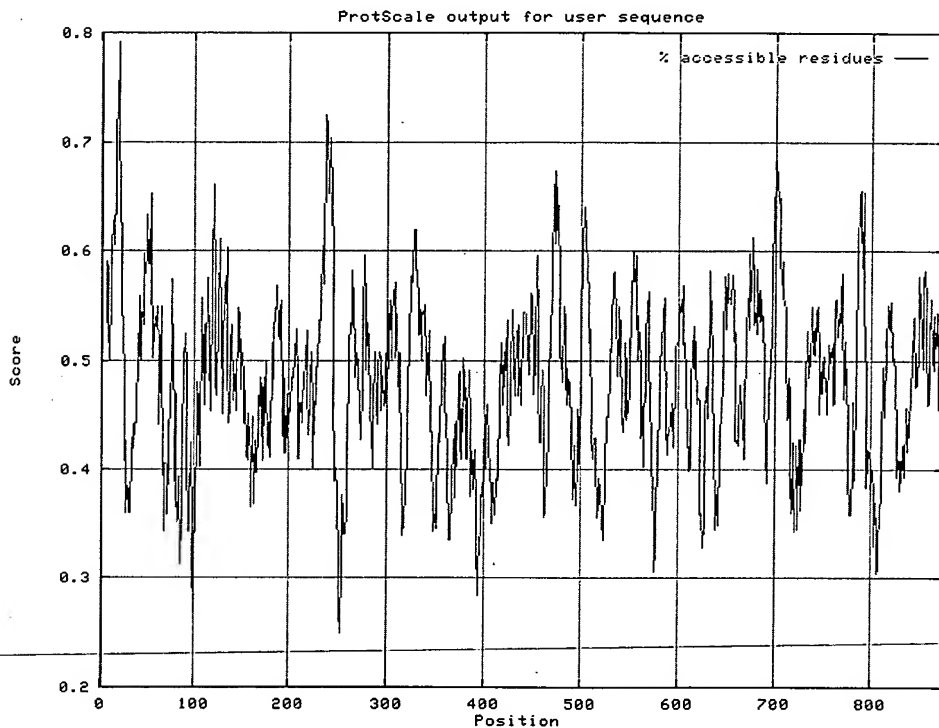


Figure 8: 161P2F10B Average Flexibility Profile

(Bhaskaran R., Ponnuswamy P.K., 1988.

Int. J. Pept. Protein Res. 32:242-255)

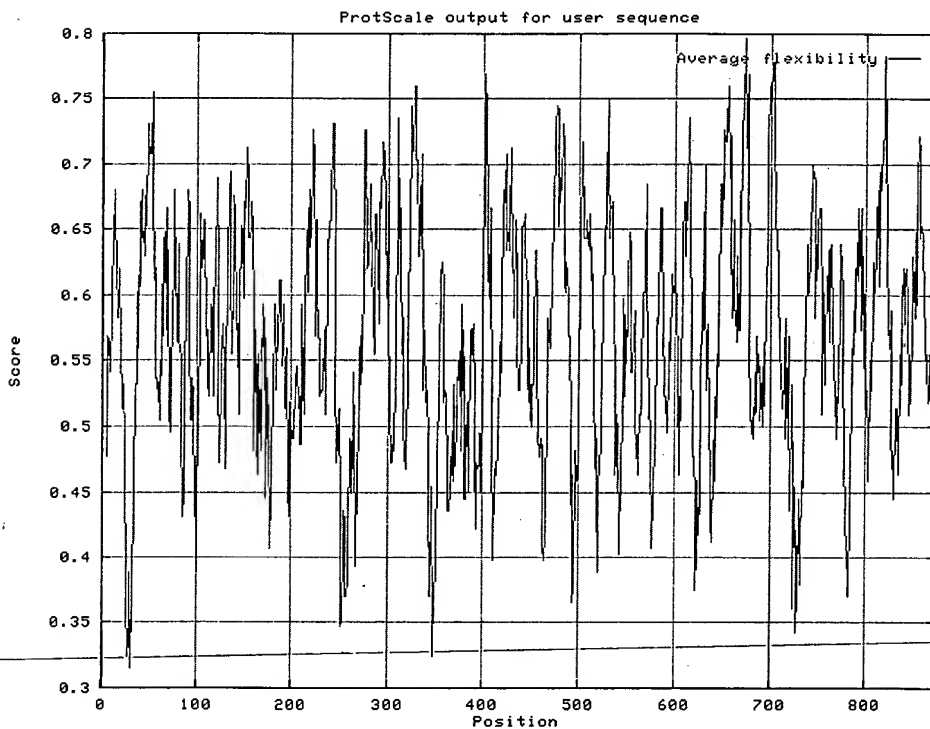


Figure 9: 161P2F10B Beta-turn Profile
(Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)

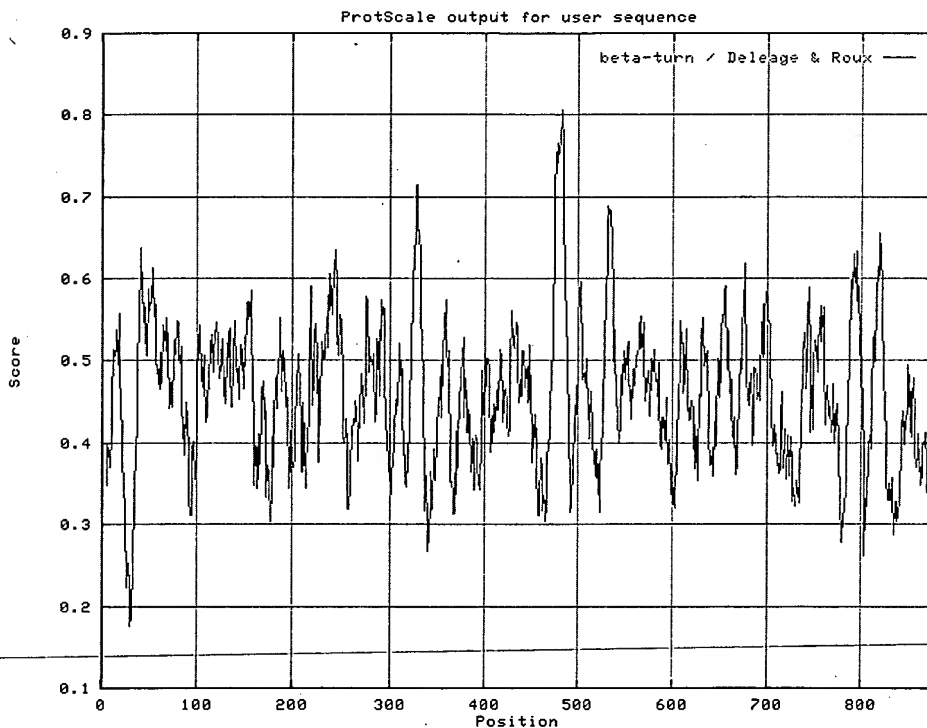


Figure 10: Expression of 161P2F10B by RT-PCR

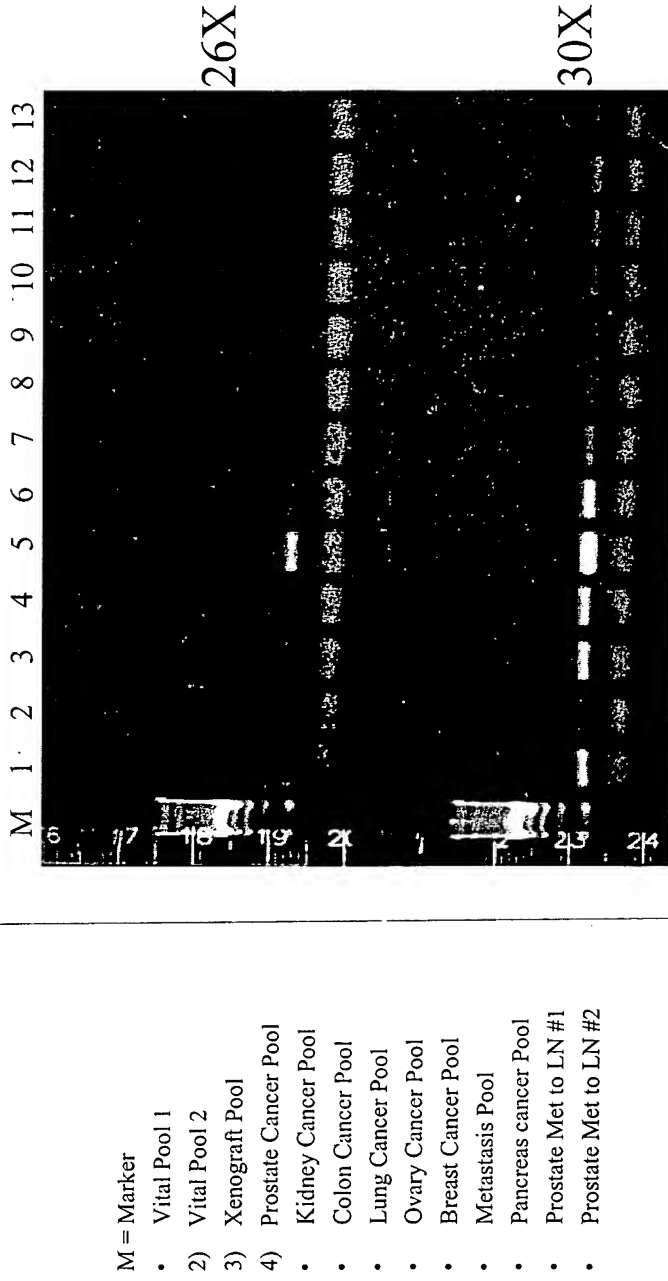


Figure 11: Expression of 161P2F10B in Normal Tissues

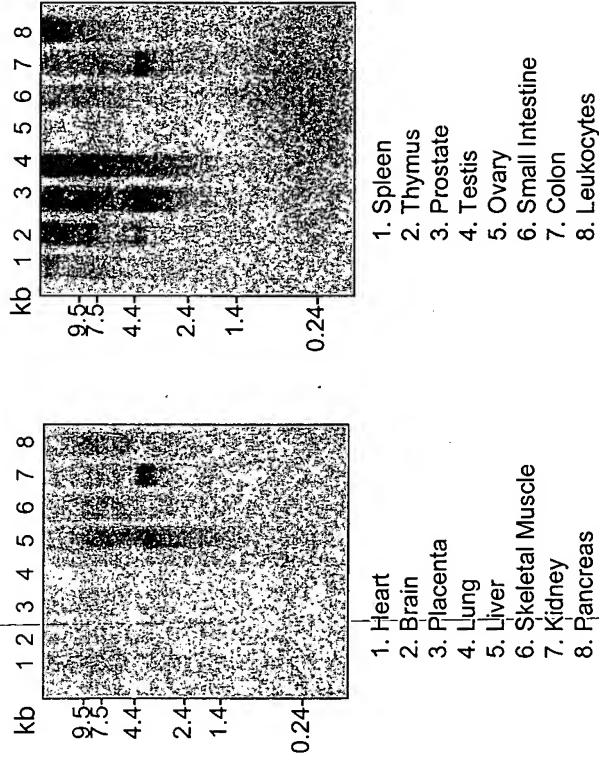


Figure 12: Expression of 161P2F10B in Patient Kidney Cancer Specimens and in Normal Tissues

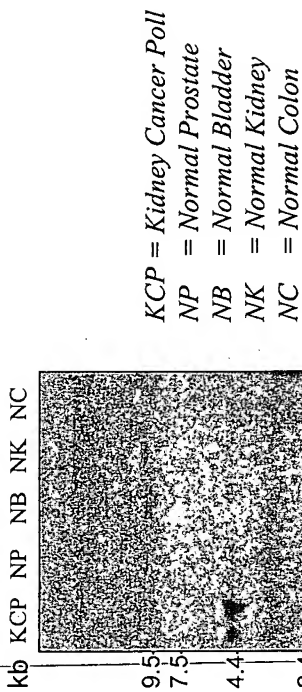
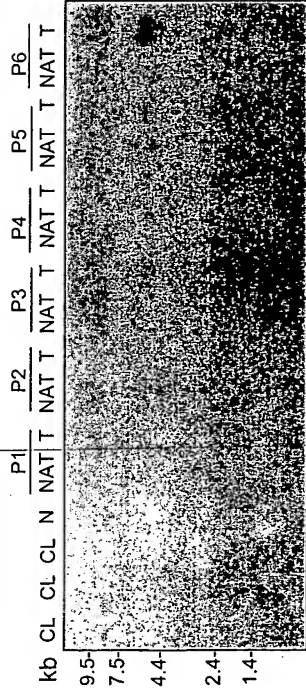


Figure 13: Expression of 161P2F10B in Kidney Cancer Patient Specimens



CL = cell lines listed in order: 769-P,
A498, SW839
N = Normal kidney
NAT = Normal adjacent tumor
T = Tumor
P = Patient

- P1 - Papillary carcinoma, stage I
- P2 - Invasive papillary carcinoma
- P3 - Clear cell type grade 1/3, focally 2/3
- P4 - Clear cell type, stage III
- P5 - Clear cell type, stage III
- P6 - Clear cell type, stage III

Figure 14: Expression of 161P2F10B in Kidney Cancer Xenografts

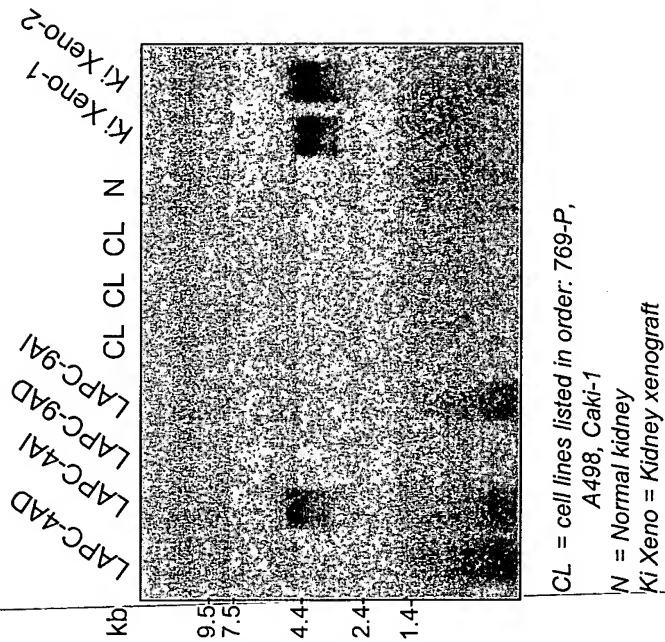
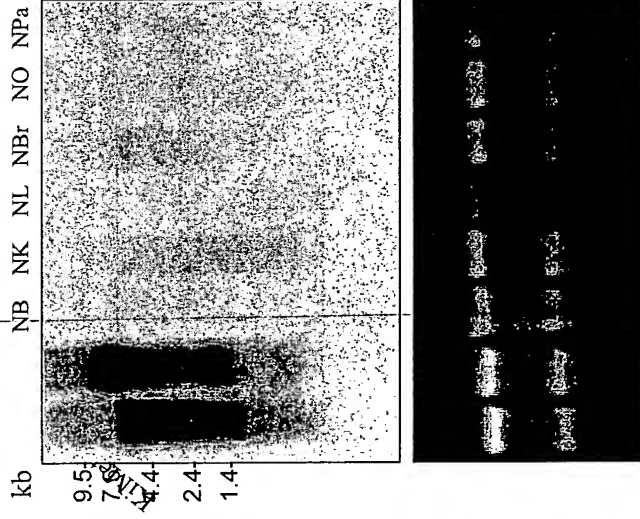


Figure 15: Expression of 161P2F10B in Kidney Cancer Metastasis Specimens and in Normal Tissues



KiMet 1 = Kidney Metastasis to lung
KiMet 2 = Kidney Metastasis to lymph node
NB = Normal Bladder
NK = Normal Kidney
NL = Normal Lung
NBr = Normal Breast
NO = Normal Ovary
NPa = Normal Pancreas

**Figure 16: Expression of 161P2F10B Protein by
Immunohistochemistry in Kidney Cancer Patient Specimens**

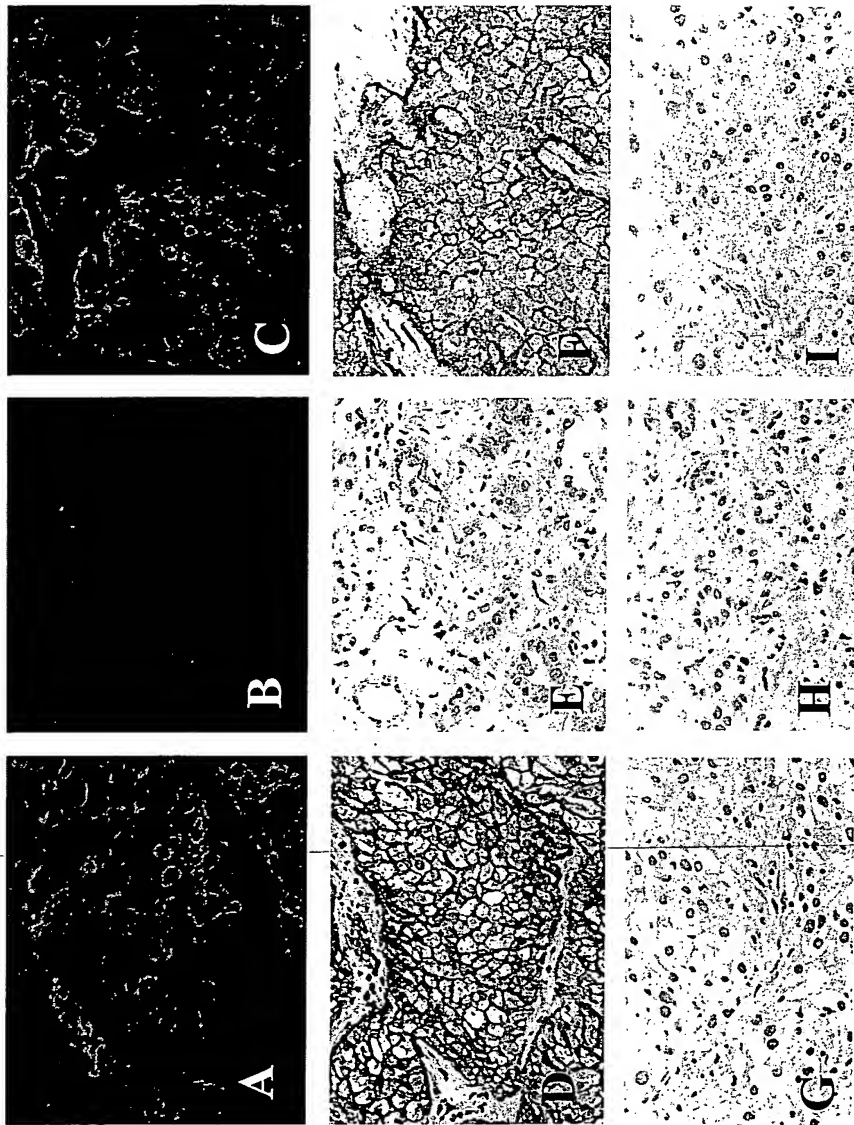
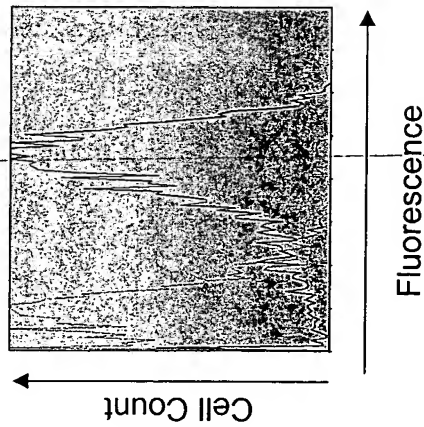


Figure 17: Expression of 161P2F10B Protein on the Cell Surface of Renal Cell Carcinoma Xenografts

A. Clear Cell Carcinoma



B. Renal Cancer Metastasis to LN

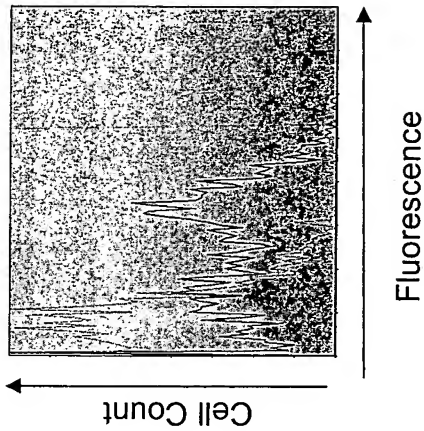
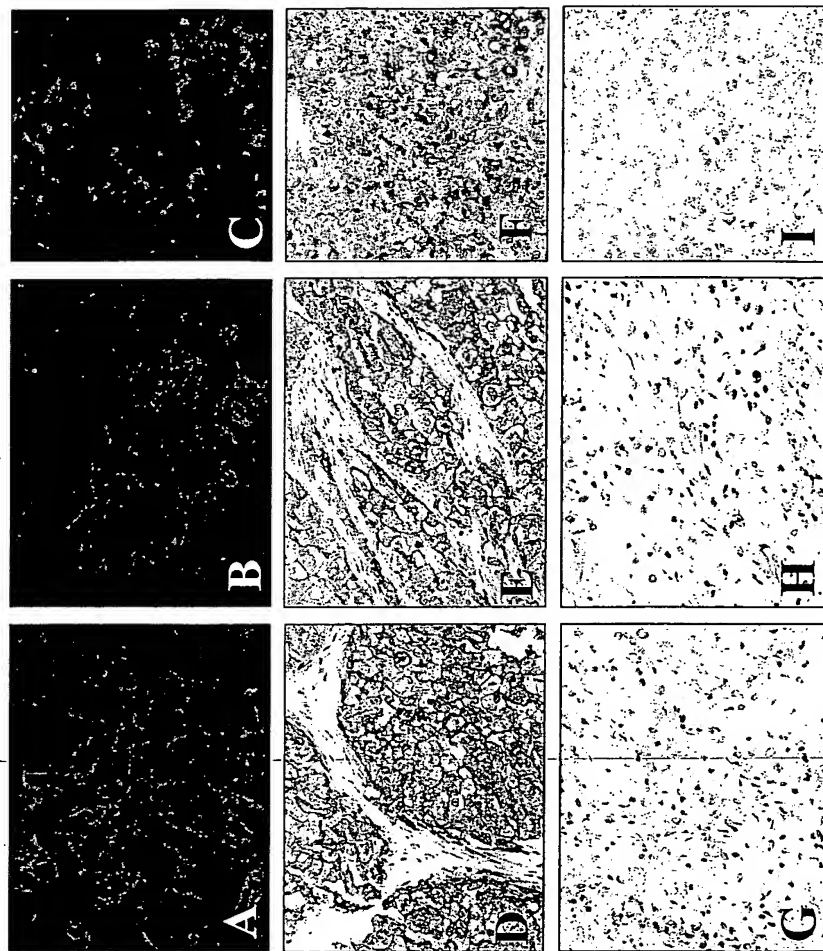


Figure 18: Expression of 161P2F10B Protein by Immunohistochemistry in Human Cancer Xenograft Tissues



(Seq. ID. No. 751)

```
c: random coil (31.31%)
e: extended strand (11.31%)
h: alpha helix (57.37%)
```

e: extended strand (11.31%)

h: alpha helix (57.37%)

Figure 19B

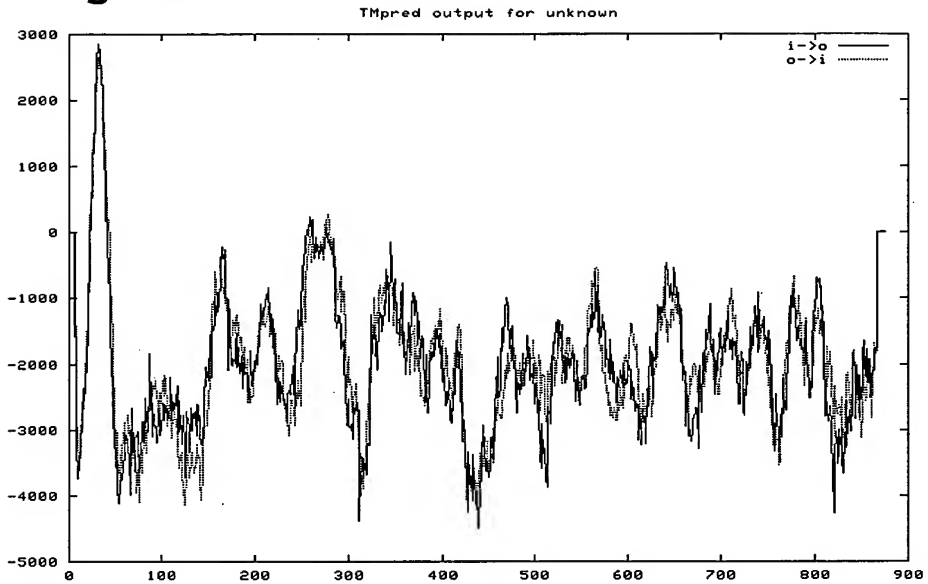
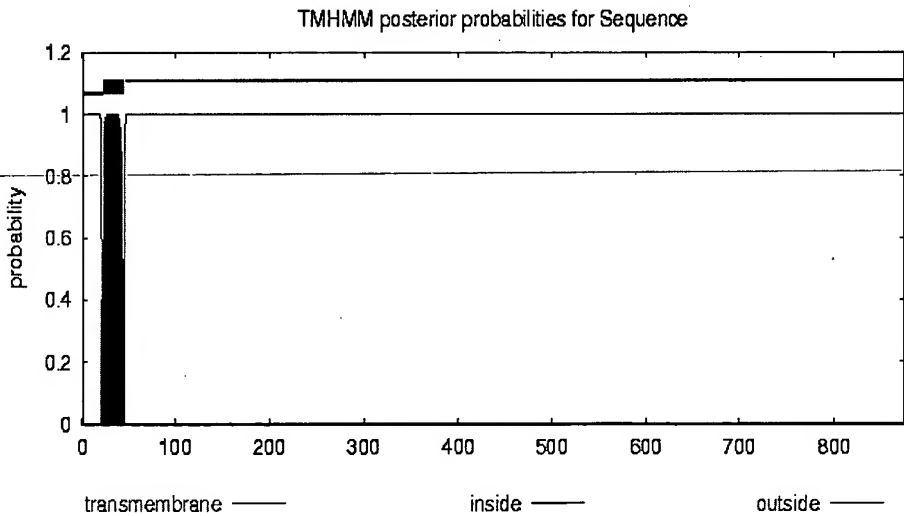


Figure 19C



**Figure 20 Expression of 161P2F10B in Human Patient Cancers
by Western Blot**

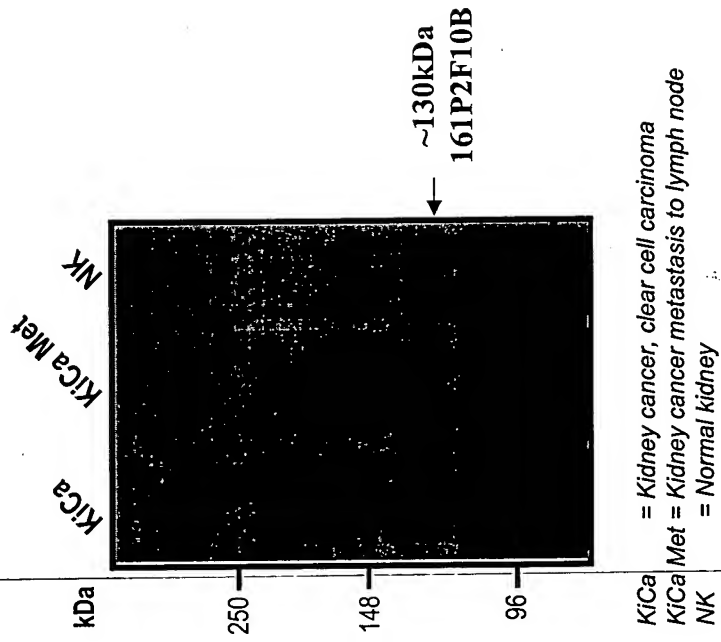
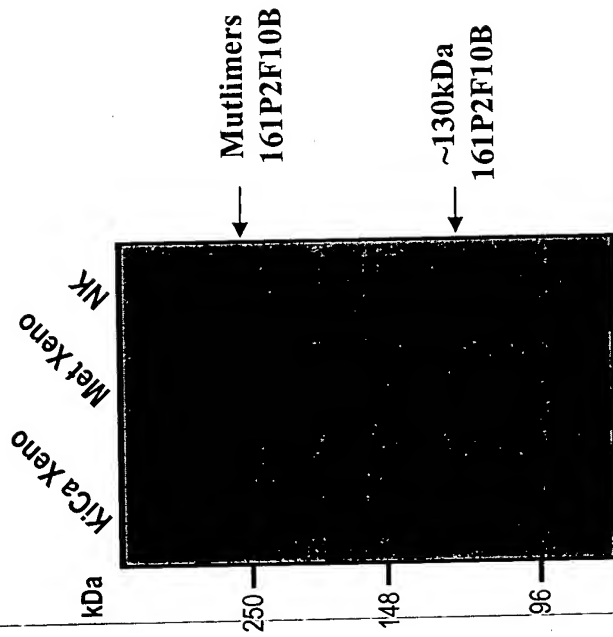


Figure 21 Expression of 161P2F10B in Human Xenograft
Tissues by Western Blot



KiCa Xeno = Xenograft of kidney cancer, clear cell carcinoma
Met Xeno = Xenograft from Kidney cancer metastasis to lymph node
NK = Normal kidney